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### The Research Laboratory of Hydroecology // The Faculty of Biology. Belarussian State University. English Version.

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## Research Laboratory of Aquatic Ecology

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The Research Laboratory of Hydroecology has been created in 1965 on the basis of Biological Faculty of the Belorussian State University according to the decision of State Scientific and Technical Committee under Council of Ministers of USSR for the development of productional and energetic direction in hydrobiology which was proposed by the well-known scientist, Corresponding Member of the Academy of Sciences of USSR, professor Georgy Georgievich Vinberg.

During the time of existence it was headed by prof. G.G. Vinberg (1965-1967), prof. Yu.K. Fomichev (1967-1991).

Since 1991 to 2012 the laboratory was headed by the Corresponding Member of the Academy of Sciences of Belarus, Dr. Sci., prof. [Alexander P. Ostapenya](#).

#### **Staff:**

*The head of the laboratory:* [Boris V. Adamovich](#), PhD

*Professors:* [Tamara M. Mikheyeva \(emeritus\)](#), Dr. Sci., [Tatiana V. Zhukova \(emeritus\)](#), Dr. Sci.

*Senior Researchers:* [Yu K. Veres](#), PhD, [Raisa Z. Kovalevskaya \(emeritus\)](#)

*Researchers:* [Ludmila V. Nikitina](#), [Natalia V. Dubko](#), [Oleg A. Makarevich](#), [Irina V. Savich](#)

*Junior researchers:* [Irina N. Selivonchic](#), [Olga S. Smolskaya](#), [Darya V. Kruk](#)

#### **Main directions of research of the laboratory:**

- production hydrobiology: the role of seston and detritus in the functioning of aquatic ecosystems;
- taxonomic diversity of algal flora of different aquatic ecosystems; structure and the peculiarities of phytoplankton in eutrophication and deeutrophication;
- biotic cycling of nutrients in lake ecosystems;
- primary production of plankton;
- suspended and dissolved organic matter in ponds and streams, the impact of xenobiotics on the production-destruction processes in the pond;
- bacterial component of the seston, sedimenting suspension, periphyton, benthic;
- community structure of macrobenthos in different environmental conditions;
- structure and functioning of communities of periphyton, metaphyton and their role in freshwater ecosystems;
- taxonomic and spatial structure, product-destruction rates of zooplankton in lakes of different types;

#### **Key scientific and applied achievements:**

- The regularities of the primary production of plankton on the lakes of different trophic types were studied;
- A unique data base of hydro-based long-term investigations of the diverse group of lakes Naroch was created;
- Studied the biological mechanisms of sedimentation weighted substances in lakes;
- Made long-term studies algological diversity in ponds and streams of the republic of Belarus;

- The role of various groups of aquatic organisms in the propurification process and the formation of water quality were estimated;
- First time in Belarus launched investigations microperiphyton as an independent unit of aquatic ecosystems;
- The conceptual approach to the study of periphyton terms trophometabolic unity of algae, bacteria, fungi, invertebrates, and dead organic matter (detritus) is justified.
- Organization and conducting of the International conference «Lake ecosystems: biological processes, anthropogenic transformation, water quality» since 1999;
- Since 1999 on the materials of monitoring observations and current research the annual edition «Bulletin of the ecological state of the lakes Naroch, Miastro, Batorino» is published;
- During the time of existence of the laboratory there were trained and protected 4 doctoral dissertations and 9 Ph.D. theses.

### Main research articles:

Xueying Mei, Liqiong Zhang, Vladimir Razlutskiy, Boris V. Adamovich, Zhengwen Liu, Mariana Meerhoff, Erik Jeppesen, Lars G. Rudstam, Henri J. Dumont, Xiufeng Zhang. Effects of omnivorous tilapia on phytoplankton and water quality in an ecosystem with submerged macrophytes. *Hydrobiologia* (2023). <https://doi.org/10.1007/s10750-023-05412-2> ([abstract](#))

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Lyubas Artem A., Alena A. Tomilova; Alexander V. Kondakov; Ekaterina S. Konopleva; Ilya V. Vikhrev; Mikhail Yu. Gofarov; Tatyana A. Eliseeva; Olga V. Aksenova; Galina V. Bovykina; Darya V. Kryuk; Tatyana L. Gorbunova; Oxana Munjiu; Oleg S. Pokrovsky; Ivan N. Bolotov. Phylogeography and Genetic Diversity of Duck Mussel *Anodonta anatina* (Bivalvia: Unionidae) in Eurasia. *Diversity* 2023, 15, 260. <https://doi.org/10.3390/d15020260> ([text](#))

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